

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-70 are pending in the application, with claims 1, 7, 8, 10, 16, 22, 23, 26, 39 and 55 being the independent claims. Claims 1 and 16 were amended to improve their form. These changes introduce no new matter, and their entry is respectfully requested.

Based on the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Double Patenting

The Examiner has provisionally rejected claims 1-70 on the grounds of nonstatutory double patenting over claims of co-pending U. S. Patent Application Ser. No. 10/809,685 to Kolze, et al., asserting that the claims, if allowed, would improperly extend the right to exclude already granted in the patent. The Examiner further asserts that the subject matter claimed in the instant application is fully disclosed in the co-pending application, is covered by the co-pending application, and that the co-pending application and the present application are claiming common subject matter.

Applicants will address the provisional double patenting rejection in the event it is converted to an actual double patenting rejection when the co-pending application is permitted to issue.

Rejections under 35 U.S.C. § 102

On pages 5 and 6, claims 1-3, 16-18, 25, 33, 34, 36, 37, 39-46, 54-56, and 63-68 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,771,590 to Marchok et al. ("Marchok"). Applicants respectfully traverse.

In rejecting independent claim 1, the Examiner contended that Marchok disclosed all elements of claim 1. Applicants respectfully disagree with the Examiner's position.

Independent claim 1 was amended to correct a matter of form. Claim 1 recites:

...
receiving a first signal from the central entity and
generating a symbol clock based on timing information included in
the first signal;
upon a loss of reception of the first signal, maintaining the
symbol clock;
receiving a second signal from the central entity;
determining a symbol clock offset between the first signal
and the second signal using the maintained symbol clock; and
adjusting the maintained symbol clock based on the symbol
clock offset to generate an adjusted symbol clock.

In contrast, Marchok discloses a two-stage process having a search mode and an acquisition mode for synchronizing clocks in a transmitter and a receiver. (Marchok, abstract; col. 1, lines 20-25). This two-stage process is essentially a gross adjust followed by a fine adjust to bring a pilot tone (i.e., reference clock signal) within locking range of the receiver's phase locked loop:

The first pilot tone search mode of operation performs a generally gross adjustment of the voltage controlled oscillator 240 that reduces the frequency offset between the pilot tone and the output of the voltage controlled oscillator 240 to within a fraction of a frequency bin (e.g., 1/2 to 1/4 of a bin). The second pilot tone acquisition mode of operation uses the gross adjustment to provide a more accurate estimate of the frequency offset which is then used as the starting point for the DPLL.

(Marchok, col. 7, lines 48-61; see also col. 2, lines 36-38; col. 3, lines 15-17).

When performing a “warm start-up,” i.e., when re-establishing communications after a brief interruption, search mode may be skipped and the receiver may proceed directly to acquisition mode. (Marchok, col. 7, lines 20-26). In acquisition mode, the receiver “measures the phase difference between consecutive pilot tone sub-symbols to adjust the timing of the output of the voltage controlled oscillator 240 so that it is within a frequency range sufficient for subsequent phase locked loop processing of the pilot tone signal.” (Marchok, col. 6, lines 45-60; col. 2, lines 44-50; col. 3, lines 22-28).

Nowhere, however, does Marchok disclose or suggest “determining a symbol clock offset between the first signal and the second signal using the maintained symbol clock, and adjusting the maintained symbol clock based on the symbol clock offset.”

For at least these reasons, independent claim 1 is patentable over Marchok. Reconsideration and allowance of claim 1 is respectfully requested. Claims 2, 3, 33 and 34 depend from claim 1. For at least the above reasons, and further in view of their own features, dependent claims 2, 3, 33 and 34 are patentable over the cited reference. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Independent claims 16, 39 and 55 are patentable for reasons similar to those presented above in regard to claim 1. Claims 17, 18, 25, 36, and 37 depend from claim 16; claims 40-46 and 54 depend from claim 39; and claims 56 and 63-68 depend from claim 55. For at least the above reasons, and further in view of their own features, dependent claims 17, 18, 25, 36, 37, 40-46, 54, 56, and 63-68 are patentable over the cited reference. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections.

Rejections under 35 U.S.C. § 103

On page 8, claims 35, 38, 47, 66, and 70 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,771,590 to Marchok et al. (“Marchok”) in view of U.S. Patent Application Publication No. 2001/0055319 to Quigley et al. (“Quigley”). Applicants respectfully traverse.

As described above, Marchok does not disclose or suggest “determining a symbol clock offset between the first signal and the second signal using the maintained symbol clock, and adjusting the maintained symbol clock based on the symbol clock offset.”

Quigley fails to overcome this deficiency in Marchok. Quigley discloses a second message receiving a *slot timing* offset (Quigley, paragraph [0009]); a fractional symbol time loop which determines a fractional symbol timing offset (Quigley, paragraphs [0132], [0200] - [0208]), with the fractional symbol timing offset defined as “a precise modification to slot timing” and which is determined when “acquiring a data packet” using a phase locked loop (Quigley, paragraphs [0200], [0203], [0204]; and use of a fractional symbol timing feedback loop to determine the fractional symbol timing using the binary pattern of the preamble. (Quigley, paragraphs [0210], [0212]). In short, Quigley discloses “enhanced data packet acquisition” which includes “fast clock phase recovery” using at least one phase locked loop. (Quigley, paragraphs [0132] [0205]-[0210]).

Nowhere does Quigley teach *maintaining* a symbol clock upon loss of reception of a first signal, determining a symbol clock offset between a first signal and a second signal using the maintained symbol clock, or adjusting the maintained symbol clock based on the symbol clock offset as recited in claim 1.

Thus, for at least these reasons, independent claims 1, 16, 39, and 55 are patentable over the cited references. Claim 35 depends from claim 1; claim 38 depends from claim 16, claim 47 depends from claim 39, and claims 66 and 70 depend from claim 55. Thus claims 35, 38, 47, 66, and 70 are patentable over the cited references for the same reasons and further in view of their own features. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

On page 9, claims 4-6, 9, 10, 19-21, 24, 26, 32, 48-50, 53, 57-59, 62, and 69-70 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,771,590 to Marchok et al. ("Marchok") in view of U.S. Patent No. 6,356,555 ("Rakib"). Applicants respectfully traverse.

Independent claim 10 recites:

...
storing information associated with the timing information to provide delayed timing information; and
upon a loss of reception of the signal, accessing the delayed timing information to maintain the symbol clock.

As admitted by the Examiner, Marchok does not disclose storing information associated with the timing information. Rakib adds nothing to Marchok. Rakib discloses filling up pages of memory with the data, not timing information, as "the data from new timeslots is received." (Rakib, col. 46, lines 55-65). Rakib also discloses a "trial and error" alignment process of "adjusting a delay from the time of receipt of the barker code to the time of transmission of the same barker code . . . until the delay is properly adjusted." (Rakib, col. 21, lines 44-55).

Nowhere, however, does Rakib disclose storing information associated with timing information to provide delayed timing information which is accessed to maintain a symbol clock. For at least these reasons, independent claim 10 is patentable over Marchok in view of Rakib. For similar reasons, independent claim 26 is patentable over Marchok in view of Rakib. Independent claims 1, 16, 39, and 55 are patentable over Marchok for at least the reasons listed under the § 102 section above. Rakib does not remedy the above-discussed deficiencies in Marchok, or add anything to Marchok that would have made obvious the claimed invention. Therefore, independent claims 1, 16, 39, and 55 are patentable over Marchok in view of Rakib.

Claims 4-6 and 9 depend from claim 1; claims 19-21 and 24 depend from claim 16; claims 48-50 and 53 depend from claim 39; and claims 57-59, 62, 69, and 70 depend from claim 55. Therefore claims 4-6, 9, 19-21, 24, 48-50, 53, 57-59, 62, 69, and 70 and are believed allowable for the same reasons as their respective independent claims and further in view of their own features. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

On page 11, claims 11-15 and 27-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,771,590 to Marchok et al. ("Marchok") in view of U.S. Patent No. 6,356,555 ("Rakib") and further in view of U.S. Patent No. 6,243,369 to Grimwold et al. ("Grimwold"). Applicants respectfully traverse.

Independent claims 10 and 26 are patentable over Quigley and Rakib for at least the reasons listed above. Moreover, Grimwold does not remedy the above-discussed deficiencies in Marchok and Rakib, or add anything to Quigley and/or Rakib that would

have made obvious the claimed invention. Dependent claims 11-15 and 27-31 depend from independent claims 10 and 26 respectively, and are believed allowable for the same reasons and further in view of their own features.

Reconsideration and withdrawal of the rejections are therefore respectfully requested.

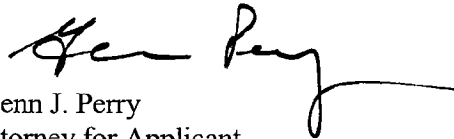
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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